

# DENSITY AND BUOYANCY QUIZ

Some contaminated water from a uranium mine was collected. After 24 hours the contents had settled with uranium at the bottom, then sand, then silt, and water on the top. What conclusion best describes this observation?

- a. uranium is more dense than silt
- b. uranium is toxic, so it settles to the bottom
- c. water is liquid, so it will rise to the top
- d. uranium is the longest word, so it goes to the bottom

A deflated balloon is massed on a scale, and the weight is 4.5 grams. The balloon is then filled with air, what will happen to the mass of the balloon?

- a. the mass will increase
- b. the mass will decrease
- c. the mass will remain constant
- d. there is not enough information

A deflated balloon is weighed on a scale, and the weight is 4.5 grams. The balloon is then filled with air, what will happen to the volume of the balloon?

- a. the volume will increase
- b. the volume will decrease
- c. the volume will remain constant
- d. not enough information is given

A deflated balloon is weighed on a scale, and the weight is 4.5 grams. The balloon is then filled with air, what will happen to the density of the balloon?

- a. the density will increase
- b. the density will decrease
- c. the density will remain constant
- d. who cares about the density of a balloon

Below are the results when pairs of substances were poured together into jars. Using your logic, draw how these three liquids will layer if all three are poured into the same jar.



(label blue, green, and yellow)

If something has positive buoyancy, what will happen if it is placed into a lake?

- a. it will float at the top of the water
- b. it will sink to the bottom
- c. it will float halfway down in the water
- d. it will make its friends smile because it is so positive

A ball and a cube both have a mass of 50 grams. They are placed into identical beakers of water. The ball sinks to the bottom and the cube floats. Why?

- a. the ball has a greater mass than the cube
- b. the cube has a greater mass than the ball
- c. the ball is more dense than the cube
- d. the cube has the most surface area, so it floats



An egg sinks in water, but floats in salt water. What inference can you make about the density of the egg?

- a. The egg is more dense than water, but less dense than salt water.
- b. The egg is less dense than water, but more dense than salt water.
- c. The egg has a neutral buoyancy.
- d. The egg needs to be cooked longer.



10-

You are given an unknown object. You measure its mass as 36 grams and its volume as 6 milliliters. What is its density?